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CR-131281

CENTER FOR RESEARCH, INC.
UNIVERSITY OF KANSAS
ERTS DETAILED IMAGE INTERPRETATION REPORT

CRINC
DIIR No. 2264-2
Date
Prepared 6 Jan 73

Subject: Variations in the detectability of major airports in northeastern Kansas and
northwestern Missouri.

Subject Geographic Coordinates see text NASA Test Site No. N/A

NASA Image Descriptors:

Airfield

Report Summary: Six major airports are located within the framed image referenced below.
Runways at four of the airports are readily detectable. Runways at the other two airports
are not detectable and the locations must be inferred by other means. This variation is
attributed to variation in runway surface composition.

(E73-10471) VARIATIONS IN THE
DETECTABILITY OF MAJOR AIRPORTS IN
NORTHEASTERN KANSAS AND NORTHWESTERN
MISSOURI (Kansas Univ./Center for
Research, Inc.) 2 p HC \$3.00 CSDL 01E

N73-21308

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Imagery References

CRINC Image No.	NASA Image ID Block	Subject Image X	Coordinates Y	Cloud Cover	Image Quality
MP00140	E-1057-16334-5 (9.5)	71 120 140 155 157 168	66 65 12 25 28 57	0	Good
MN00120	E-1057-16334-4 (7)	NA	NA	0	Good
MP00137	E-1057-16334-6 (9.5)	NA	NA	0	Good

Map References: USGS Sheet NJ15-1 1:250,000
USGS Sheet NJ15-4 1:250,000

Digital Data Used Yes No x

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Six major airports are located within the area covered by this frame. These are, in the listed order of image coordinates: (1) Forbes Air Force Base, 38-55N95-38W; (2) Olathe Naval Air Station, 38-50N94-52W; (3) Kansas City International Airport, 39-18N94-45W; (4) Fairfax Industrial Airport, 39-06N 94-37W; (5) Kansas City Municipal Airport, 39-05N 94-36W; and (6) Richards Gebaur Air Force Base, 38-52N 94-35W.

Of these six airfields, only four (Forbes AFB, NAS Olathe, Richards Gebaur AFB, and Fairfax Industrial Airport) could be identified by runway configuration on the image. The runways of both Kansas City Municipal and Kansas City International could not be identified. Comparison of the six airfields reveals that all have similar runway lengths and widths and, because of prevailing winds, the main runways are oriented similarly. Therefore, the lengths, widths, and orientations of the runways apparently do not control detectability. Further investigation does reveal a difference in runway surface composition and this factor may closely relate to detectability by controlling reflectivity.

Three image bands (MSS -4, 5, and 6) were analyzed. Detection was most readily accomplished on MSS-5. The four airfields detectable on band 5 were also detectable on band 4. MSS-6 did not reveal the presence of airfields without reference to band 5, or prior knowledge of the presence of these facilities.

Both airfields not readily detectable on band 5 could be located if the interpreter were familiar with the study area, because associated facilities, i.e., the Boeing 747 overhaul hangers at KCI, were detectable but not identifiable on band 5. KCM can be located by reference to the configuration of the Missouri River.

Cost of preparation of this report was two hours interpreter time.